Do Political Preferences Affect Policy Learning and Uptake? Evidence from a Field Experiment with Informal Entrepreneurs

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We examine whether political preferences affect uptake and learning about government programs in the context of Brazil's Individual Microentrepreneur Program, which offers subsidized access to social security coverage and business-related incentives. We fielded a randomized intervention that provided one-on-one consultancy and assistance to informal entrepreneurs. Treatment increased formalization rates, but we found only weak evidence that supporters of the enacting president were more likely than detractors to take it up. Stressing the political origins of the program slightly decreased differences in take-up between these two groups. We also show that detractors learned much more about the formalization program than supporters when the program's political connections were mentioned, implying that supporters formalized at higher rates given similar levels of knowledge. While it is possible to increase uptake by providing information and assistance, political endorsements seem to function as a substitute for knowledge acquisition and ultimately have conflicting effects on uptake.

Low uptake of government programs is a common phenomenon across many policy domains (e.g., Chyn, Hyman, and Kapustin 2019; Riphahn 2001; Wright et al. 2017). Cost-benefit considerations often drive low uptake, but citizens might also simply lack information about eligibility or be deterred by high nonmonetary costs, such as enrollment hassles or social stigma (Currie 2006), or by behavioral constraints, such as low awareness, inattention, procrastination, and inertia (Bertrand, Mullainathan, and Shafir 2006). While the COVID-19 pandemic and increasing political polarization have recently spurred interest on the politics of uptake and compliance, the ways in which political preferences affect uptake of government programs had not previously received substantial attention in the literature (for an exception, see Lerman, Sadin, and Trachman 2017).

There is little doubt that political preferences affect the evaluation of politicians, position taking on political issues, and perceptions about policies. Party identification, for instance, has been shown to be a reliable driver of political assessments across many topics (Greene, Palmquist, and Schickler 2002), even in multiparty settings in which the party system is not as clearly structured as in the United States (Samuels and Zucco 2018). If individuals with different political preferences evaluate policies and politicians differently, it is possible that

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their decision to take up government programs also depends on individuals' attitudes toward the program's proponents.

We explore the question of whether political preferences affect uptake in the context of the Brazilian government's Individual Microentrepreneur Program (Programa do Microempreendedor Individual, or MEI), geared toward formalizing small entrepreneurs and self-employed individuals. Governments around the world have implemented formalization initiatives to foster economic development (Kanbur 2017), but these programs often struggle to generate uptake. MEI was implemented and scaled up along with other propoor programs when the Workers' Party (Partido dos Trabalhadores, or PT) controlled the presidency. It was not a particularly politicized program, but Brazil has since then experienced a substantial increase in political polarization between pro- and anti-PT camps (Hunter and Power 2019).

We test whether politics affects uptake, by studying 1,144 MEI-eligible individuals in the city of Rio de Janeiro who live and work in low-income areas. We provided information and direct assistance to a random subset of our sample and assessed whether it affected uptake, which was measured from both survey data and administrative records. We then examined whether our treatment affected program uptake differently for supporters and detractors of the government that enacted the program and also whether these differences increased when we emphasized the program's political connections.

MEI is a particularly interesting setting for such a study because of its distinguishing features, target clientele, and the political background in which it was enacted that capture many features that have been previously considered successful in inducing formalization (Jessen and Kluve 2021). It is an unusually strong bundle of inducements that combines business-related incentives and tax incentives with subsidized access to social security in a hassle-free format at a low cost to a very broad eligibility pool. Yet, most eligible individuals in severely disadvantaged social contexts fail to capitalize on MEI's advantageous terms because of possibly both limited information and behavioral barriers to uptake (Mani et al. 2013). It is plausible to expect, therefore, that tackling both types of deficiencies simultaneously could increase formalization.

We expected that providing randomly selected entrepreneurs with detailed and customized information on the costs and benefits of the program and offering technical assistance to navigate the process would increase uptake in general, but particularly among those who were positively predisposed toward Luiz Inácio Lula da Silva (i.e., Lula) and the PT. The MEI's target public often lacks the formal education and managerial training necessary for making accurate entrepreneurial decisions. Therefore, even those who receive information about the MEI program might find it difficult to determine whether the uncertain and future benefits are worth their while. Trust in the government's intentions, in this setup, is important. Hence, association with Lula and the PT might function as an "uptake heuristic" for those with positive or negative attitudes toward them and, thus, affect the uptake decision. We also expected that if we experimentally made the connection between the MEI program and Lula more explicit, the differences between supporters and detractors of Lula would become even larger and lead to higher program uptake among supporters.

In line with our preregistered expectations, we find that providing information and technical assistance can increase formalization, which is relevant in itself considering the mixed results in the preceding literature. We also find some evidence that supporters of Lula responded more to our treatment. However, contrary to our expectations, explicitly stressing the political connections of the MEI program did not increase the difference in outcomes between supporters and detractors. Follow-up, unregistered analyses help us understand these results. We found that detractors of Lula learned much more about the program than supporters when we experimentally stressed the political connection. As learning about the program leads to a higher uptake overall, knowledge acquisition had a positive influence on the uptake for detractors. A corollary of this result is that supporters were more likely to formalize given the same level of information as detractors. In short, detractors formalized because they learned more about the program, while supporters formalized with lower levels of knowledge. These results suggest that political endorsements and information functioned as substitutes in the formalization decision.

We start by discussing the literature on formalization and on the political evaluation of politicians and policies, to motivate and formulate our theoretical expectations. Then, we provide MEI's institutional details, describe the empirical setting and research design of our study, and present the main results. Next we discuss our results and bring exploratory analyses to bear on some of the unexpected findings. The final section summarizes our findings and discusses their policy implications.

FORMALIZATION AND POLITICS

The informal economy, comprising informal employees, informal entrepreneurs, or both, accounts for a large share of economic activity in the developing world (OECD 2019). Informal workers are typically "off the books," which implies that they do not make contributions to the social security system and are therefore not entitled to pensions, unemployment and

disability insurance, maternity leave, and other benefits. The problems are compounded by the fact that many workers—especially those with low income and low skills—transition in and out of informality several times during their lives, making it difficult, even for those who are formal at some point, to claim retirement pensions and other social security benefits (Baker and Velasco-Guachalla 2018). Informal entrepreneurs, like workers, miss out on social security (Dabla-Norris, Gradstein, and Inchauste 2008), but they also face several constraints to running and growing their business, such as limited access to credit, difficulties in doing business with formal sector firms, and difficulties in seeking legal protection.

To foster formalization, governments around the world have attempted to lift constraints by implementing different programs to simplify registration, reduce associated costs, or increase the perceived benefits of the programs (Jessen and Kluve 2021; World Bank 2013). Some studies point out that the impact on formalization has been small, if any (Bruhn and McKenzie 2014), or vanished with time (Galiani, Meléndez, and Ahumada 2017); programs that simply offer simplified and lower-cost registration in exchange for subsequent tax payments have generally enjoyed little success (De Giorgi and Rahman 2013). When benefits were increased, MEI uptake increased too (Benhassine et al. 2018; Jessen and Kluve 2021). The conclusion from these studies is that if the cost-benefit calculation is not attractive, efforts to provide information about formalization opportunities are unlikely to work. This should be less of an issue with the MEI program, however, because of the long list of benefits, highlighted above and detailed below. Explanations for why half of the economy is still informal, therefore, must also acknowledge the many psychological frictions that may prevent uptake and that operate across policy domains. Recent work has provided empirical evidence that suggests these behavioral constraints are present and important (Benhassine et al. 2018; Campos, Goldstein, and McKenzie 2015; Lenz and Valdivia 2021).

In the case of MEI, it is plausible to conjecture that trust in the government's intentions and attitudes toward the enacting government might be as important a factor in fostering formalization as are access to information and nudges to overcome behavioral biases. Although the cost-benefit assessment might be favorable to uptake, the program imposes a monthly financial liability that is small and certain while some of its most attractive benefits—namely, access to different social security benefits—are contingent on uncertain or long-term events. Individuals must believe that these benefits will be available when needed and also be able to place a value on a benefit that is contingent on future events. Entrepreneurs may fear—not without reason—that benefits will not be forthcoming when requested or that by registering with a tax authority to pay a very small monthly fee they might be subject to arbitrary tax increases afterward. This uncertainty might be of particular concern to individuals operating in informal environments with little recourse to institutional channels for resolving eventual disputes.

We posit that how individuals deal with this uncertainty might be connected to political preferences and that, by implication, these preferences might shape the uptake of government programs. This link between preferences and uptake finds support in previous research. Lerman et al. (2017), for instance, have shown that in the United States, Republicans were much less likely to sign up for insurance through the Affordable Care Act (ACA) and that experimentally de-emphasizing the role of government in the program reduced the partisan gap in the uptake. We examine a similar issue—uptake of what amounts to an insurance-like benefit—in a very different setting. MEI's target population has less information and resources and is less partisan than ACA's clientele. MEI was also not as politicized as ACA at the time of its inception. For this reason, while Lerman et al. (2017) sought to decrease politicization of ACA, our manipulation sought to increase the political origins of MEI.

As in the United States, political polarization has increased markedly in Brazil in the last decade. It is therefore at least plausible that politics has become salient enough to shape behavior toward government policies. The PT governments of Lula da Silva (2003–10) and Dilma Rousseff (2011–16) became associated with high-profile social programs and "pro-poor" growth. MEI, in fact, was conceived as much as an instrument of social inclusion as one aimed at supporting entrepreneurship or increasing the tax base. At the time of its inception, the PT governments were hugely popular, but the party and its leaders later fell from grace; Rousseff was impeached and Lula arrested. The country has since become deeply polarized into pro- and anti-PT camps.

Political preferences toward the PT and its leaders can play the same role as partisanship in other contexts, affecting not only whether one trusts and supports a policy but also how one seeks and processes information about policies that are sponsored by or linked to political in- or out-groups (Lau and Redlawsk 2006; Redlawsk 2004). Crucially, in our setting, it also affects the likelihood of paying attention to and accepting as true statements made by copartisans or by politicians perceived to be part of one's "group" (Jerit and Barabas 2012; Zaller 1992). In heavily polarized societies, partisanship can even trump facts when voters attempt to evaluate policies (Druckman, Peterson, and Slothuus 2013), particularly when endorsement of policies comes from party elites (Bisgaard and Slothuus 2018) and even if available

policy-relevant information might offset the effects of partisans' cues (Bullock 2011). Political endorsements by partisan leaders, in this account, can be used as a heuristic for the desirability of the program or as a replacement of an otherwise costly cost-benefit analysis (Lau and Redlawsk 2001). Taken to an extreme, party position taking could lead citizens to blindly copy views of their party leaders even when specific information on which to ground their judgments is available (Cohen 2003; Rahn 1993).

In contrast to this cueing mechanism, politics can also affect access to government services directly, as the vast literature on clientelistic targeting of government resources attests (e.g., Keefer 2007; Stokes 2007). Moreover, a growing recent literature has shown that bureaucratic requirements reduce access and force potential beneficiaries to rely on clientelistic connections (Auerbach and Kruks-Wisner 2020). This type of logic, alone, could lead to differential uptake across groups and individuals with different political preferences and connections. In our setting, as we detail below, political preferences are not a stand-in for facilitated access to MEI via clientelism. This is because there is no presence of relevant party operatives in the communities we examine who could facilitate access to MEI, and the MEI program does not require any direct contact with or discretionary decisions by any official. Moreover, to the limited extent that our data allow us to examine this issue empirically, we found no evidence that supporters of the implementing government enjoyed facilitated access to the program (see app. G).

Our focus, instead, is on whether potential beneficiaries are swayed when transaction costs are reduced by assistance, and information is provided to them in a very convenient way, and on whether political preferences affect potential beneficiaries' reaction to this information and facilitation. If citizens take partisan cues in deciding whether to take up a specific government program designed for them, its success might depend on political preferences toward the party that initiates it. But do citizens in fact discriminate for or against policy programs depending on their attitudes toward the programs' sponsors?

We examine these questions experimentally by offering information and very convenient on-the-spot assistance to MEI-eligible informal entrepreneurs who face significant information, time, and resource constraints and limited access to support channels. We then observe whether this intervention affects their uptake, whether political preferences moderate these effects, and whether these moderating effects vary once we stress the political origins of the program. We expect that our basic intervention will increase uptake, as it is reduces not only information and "hassle costs" but also helps individuals overcome behavioral impediments to formalization. While we do not manipulate benefits—these are set in law—the terms of the MEI program are generous enough to attract potential beneficiaries once they receive the relevant information and assistance. We expect, thus, to be able to overcome both informational and behavioral barriers to take-up where several other interventions have not. Hence, our most basic hypothesis is that:

H1. The provision of information and assistance increases formalization with the MEI program.

Our main focus, however, is on whether political preferences moderate uptake. We believe our intervention is likely to affect individuals differently, particularly because of their attitudes toward the enacting government. Access to social security, as with any insurance-like benefit, is contingent on future events. Hence, while the costs of formalization are certain and immediate (although small), some of its most salient benefits are future and uncertain. Moreover, as our subjects are typically focused on meeting immediate economic survival, benefits with long payoff periods may be easily overlooked despite their potential for helping to prevent business failure in the case, for instance, of pregnancy or sickness. Therefore, we expect that individuals who hold positive attitudes toward the government that enacted the policy will be more likely to trust that the policy benefits them, even if they cannot completely ascertain this from the information they possess.

Previous work on how political attitudes affect uptake of government programs focused on partisanship in the context of the US two-party system. In Brazil's extremely fragmented political landscape, partisanship is distributed in a very lopsided way. Half to two-thirds of the electorate are nonpartisans, and the rest are basically split between supporters and detractors of the PT, with no other party commanding much support or antagonism (Samuels and Zucco 2018). The natural way to implement our analysis would, therefore, be to compare supporters and detractors of the PT. Partisanship, however, is substantially lower among lower-income individuals, particularly in the outskirts of Rio where the party has never been very strong. Moreover, support for the PT was at its lowest point ever at the time of the study (app. F). In our setting, it would not be empirically feasible to focus strictly on the PT versus anti-PT cleavage, something that we anticipated in our preanalysis plan (PAP). We, therefore, combine individuals' attitudes toward the PT with attitudes toward the party's most eminent figure, Lula.

Lula has been a fixture of Brazilian politics for more than a generation. He contested the first five elections after Brazil's democratization, was elected president in 2002, reelected in 2006, and left office with 80% approval ratings. Lula then helped

elect and reelect Dilma Rousseff, his handpicked successor, in 2010 and 2014. He was subsequently indicted on corruption charges and while leading the polls ahead of the 2018 presidential elections he was ruled ineligible. He was eventually convicted and served jail time until his convictions were voided. Lula then returned to politics and narrowly won the 2022 presidential election.

Lula was still fairly popular at the time of the study (2017–19). However, the strong *antipetista* tide that followed the corruption allegations had been thickened by the political activation of evangelical voters, who are overrepresented in the suburbs of Rio de Janeiro, where we conducted the study. Hence, Lula's figure—and his party's image, to a lesser extent—were likely to trigger polarizing reactions from our subjects. We expected that supporters of Lula and the PT would be more likely to believe that MEI could benefit them and, ultimately, be more interested in signing up than detractors. Our underlying assumption is that subjects have some idea that the MEI program is associated with Lula and the PT. This expectation is plausible because, at the time of the study, the country was in the first year after Rousseff's removal from office, and presidential elections had not yet been held. Even low-information individuals would have been aware that the country had been governed by PT presidents in the preceding 13 years, and in the information sessions, all subjects were told that the MEI program had already existed for a few years. Hence, we expect that:

> **H2.** Supporters of Lula and the PT will be more likely than detractors to formalize with the MEI program when provided with information and assistance.

While hypothesis 2 was conceived as a heterogeneous effect of our main manipulation, we implemented a second manipulation that took a more direct approach to the program's political origins by explicitly linking Lula and the PT to the MEI program, and bringing this political connection to the top of our subjects' minds. Granted, if the program had already been politicized, as was the case with ACA in the United States, we would not expect any effects of this moderation. But, given that MEI was conceived in a less polarized time, we expect that:

> **H3.** The differences in formalization between supporters and detractors of Lula and the PT will be larger when the political association is made more salient.

INSTITUTIONAL BACKGROUND: THE MEI PROGRAM

The MEI program caters to self-employed informal workers who may or may not consider themselves "entrepreneurs." For example, a hairdresser who rents a working space in a salon, or a book editor, may not consider himself an entrepreneur, whereas a confectioner with his own cake shop may. As a result, a very large share of the Brazilian population is eligible for the MEI.

The concept of formalization is elusive and depends not only on federal laws but also on state and city regulations. In all cases, even in the simplified schemes available to small companies, a formal venture must have at least a CNPJ (Cadastro Nacional de Pessoas Jurídicas) number that functions both as a taxpayer and an identity number for companies. Self-employed individuals who do not possess a CNPJ are—with very minor exceptions—informal.

The MEI program was enacted in July 1, 2009, during President Lula's second term. At the time, Lula was hugely popular, and the MEI program was advertised by the government as yet another initiative in a portfolio of programs geared toward "social inclusion," which was the signature of Lula's most high-profile policy initiatives. After low initial uptake, the government reduced the monthly contribution (Bosch Mossi, Fernandes, and Villa 2015; Rocha, Ulyssea, and Rachter 2018), and by 2019, more than 8 million MEIs were registered in the country. Importantly, however, despite its beneficial terms, informality is still very high, and particularly in more resource-constrained environments large majorities of those eligible have yet to formalize.

The process of registering as a MEI is fairly easy and, in most cases, done entirely online. Registration itself is free but, upon registering, MEIs must pay a monthly flat fee that includes a subsidized social security contribution as well as the state or municipal taxes (when applicable). MEIs are also required to declare their total yearly revenue, which must be below the legally mandated limit of R$82,000 (US$15,000, at the time of the study). Both payments and the declaration can be done online, and there are no bookkeeping requirements.

The MEI program offers business-related advantages and social security–related benefits to induce previously informal microentrepreneurs and informal workers to register with the state and pay taxes. Among the business-related benefits, MEIs can hire one employee for whom the state will subsidize the employer's share of social security contributions, possibly giving them a human capital edge over their informal counterparts. A CNPJ number also allows entrepreneurs to obtain discounts on wholesale purchases, access banking products, and issue official tax receipts that allow microentrepreneurs to interact with formal companies and with the public sector. Likewise, state agencies that actively promote and engage in the hiring of small businesses can only do so if the business is formal. Furthermore, an indirect benefit of formalization is to reduce the uncertainty associated with harassment in business inspections by public employees.

CNPJ-related benefits are not specific to the MEI program, but becoming a MEI is the cheapest and easiest way to obtain a CNPJ.

Although business-related advantages might attract growth-oriented entrepreneurs, the MEI program offers social security–related incentives that are more salient on the minds of individuals in resource-constrained environments, many of whom enter entrepreneurial activities because of a lack of employment options. For them, the main advantage of the program is the possibility of making highly subsidized contributions to the country's social security system—equivalent to approximately half of the minimum contribution paid by other employees or entrepreneurs. Upon reaching retirement age and completing a minimum of 15 years of monthly contributions, MEIs become eligible for a defined retirement benefit of one minimum wage per month. Active MEI status also implies coverage by disability pension, sick leave, maternity leave, and a limited life insurance benefit for those with minor children.

In focus groups conducted after our field experiment, we found that neither the possibility of issuing receipts nor the subsidized hiring of employees was particularly attractive to our subjects. Almost all subjects were enticed by social security benefits, and the CNPJ was relevant mainly because of discounts on the usage of credit/debit card readers and products such as health insurance. Business benefits interested only entrepreneurs who interact with the formal market (either as consumers or suppliers).

THE FIELD EXPERIMENT

The preregistered interventions in this study attempted to induce informal entrepreneurs in very low-income neighborhoods in the western suburbs of Rio de Janeiro to take up the MEI program (see app. A). We began with a visual assessment of all streets and alleys to identify locations in the selected communities in which there were small entrepreneurs operating. We then applied a detailed baseline survey to all 4,350 entrepreneurs we identified in the visual assessment (May–December 2017), but we filtered out individuals who reported already being formalized entrepreneurs as well as those who were already retired or beyond retirement age.[1] The remaining 1,969 individuals were then randomly assigned to the multiple treatment arms of the study, 1,144 of which were assigned to the three arms examined in this article: a control group ($N = 434$), the main treatment arm ($N = 432$), and the political endorsement treatment arm ($N = 278$).[2] Randomization was performed at the individual level and within blocks defined by neighborhoods. Probabilities of assignment to treatment were the same across all blocks.

The interventions were carried out between March and June 2018. The main treatment arm consisted of a one-on-one training session prepared by us and carried out by our field team. These sessions were delivered at the place of work of the entrepreneur and covered eligibility requirements, benefits, obligations, and instructions on how to sign up for the program. An original four-minute-long video with information about the MEI program was delivered halfway through the intervention, and custom-designed printed materials with the same information were handed out so that subjects could keep relevant information about the program and about how to contact the research team. Subjects watched the video on a tablet and wore headphones, generally at a time of reduced business activity. The risk of individuals assigned to the control condition being unintentionally treated was minimal, and there were no incidents. The consultants, who had previous experience working with the Brazilian Service to Support the Micro and Small Enterprises (SEBRAE)—a paralegal partially state-funded entity that supports small businesses nationwide and that already operated in the area—also informed subjects about resources available to entrepreneurs (such as location and hours of SEBRAE field offices), answered follow-up questions for as long as subjects requested, and extended an offer for further one-on-one help to enroll in the program, which could be taken up at a later date. In order to avoid pushing entrepreneurs to formalize involuntarily, our team only revisited individuals who requested further assistance. The typical consulting session lasted for at least 40 minutes, but in some cases, it extended for considerably longer.

The endorsement treatment arm was almost exactly the same as the main treatment arm, except that the informational video that was shown to the entrepreneurs also associated the program with former President Lula. This was done by showing a picture of Lula at the end of the video with a voice-over stating that he had enacted the program. Subjects in the main treatment arm saw, instead, a picture of the president of SEBRAE and received information about institutional partners of the training program. The video was

1. Eligibility questions were asked at the start of the baseline survey, so individuals flagged as ineligible answered only a very abbreviated version of the questionnaire. We provide a flow chart of the structure of the study in app. B.

2. The analyses were preregistered in the PAP under the Formalization Inducement and the Endorsement Study, which laid out plans for analysis of outcomes related to formalization and heterogeneous effects of interpersonal trust (in the main treatment arm) and heterogeneous effects of pretreatment assessments of Lula's endorsement (in both arms). The endorsement arm was smaller than the main treatment arm because the latter was intended as part of a meta-analysis of similarly designed interventions.

not ostensive in pointing out the program's link to Lula because our field partner is a nonpartisan organization. Despite this, given that Lula was the best known politician in the country at the time and that his image is strongly associated with being pro-poor, even such a light manipulation might elicit a response by subjects.

The control group was not recontacted until the end line survey was fielded, between November 2018 and January 2019. Data on the outcomes come from end line surveys and from administrative records, as we detail below. The collection of administrative data from public records ended in early 2020. Upon collection of administrative data, we identified a number of individuals who were, in fact, already formalized at baseline. These individuals either did not recall having formalized before or misrepresented this fact to us during the survey. As we discuss below, ineligibility was equally distributed across treatment conditions, so we decided to exclude these individuals from the main analyses.

Data

In order to test our hypotheses, we examine outcome variables related to formalization as well as moderation by pretreatment attitudes toward Lula and the PT. We work with three formalization-related outcomes, all of which are binary variables. The first outcome, which we label "intent to formalize," is based both on self-reported end line survey data and on administrative records. It was coded as a success if the individual formalized, reported have considered formalizing, contacted our field team requesting help with the formalization process, or contacted SEBRAE's local offices for help, regardless of whether the person ultimately formalized.

The second formalization-related outcome is an indicator of whether the individual formalized at any point after the start of the intervention, and the third a more demanding indicator of whether the individual formalized and made the first two monthly tax payments thereafter (which we refer to as tax compliance). Both of these variables were coded from administrative records that were publicly available.[3] As table 1 shows, 47% of the sample intended to formalize, 14% formalized, and 9% formalized and complied with the first two monthly payments.

Hypotheses 2 and 3 require examining whether the effects of the main intervention vary given the pretreatment attitudes toward Lula and the PT. These assessments were gauged at the baseline survey through three questions—a rating of Lula's performance as president (56% rated as good or excellent), willingness to vote for Lula in a future hypothetical presidential election (43% would vote for him), and sympathy for the PT (78% were either indifferent or supported the party)—that we combined into an additive standardized index of support for Lula and the PT. Construction of the index, reasons for dichotomizing the variables, and extended results are discussed in appendix F. Table 1 also reports descriptive statistics for "knowledge" outcomes and trust-related moderators, which were not preregistered and are examined and described in the Knowledge Acquisition and Uptake section.

Randomization generated treatment groups that were balanced across a wide range of pretreatment observables that include not only the moderators described above but also several demographics and substantively relevant variables such as ex ante knowledge about the MEI program and intent to formalize. Importantly, the treatment groups were also well balanced with respect to the share of subjects identified ex post as being ineligible ex ante to formalizing as MEI and therefore excluded from the analyses. Appendixes C and G present balance statistics and a discussion of ex ante ineligibility.

Analyses

Our first hypothesis requires the assessment of average effects of each treatment condition. As per our PAP, we anticipated examining main effects through difference-in-means comparisons as well as through intention-to-treat (ITT) estimates based on

$$Y_i = \beta Z_i + \Omega \mathbf{X}_i + \phi_i + \varepsilon_i, \quad (1)$$

where Z_i is an indicator of assignment to treatment, ϕ are block fixed effects, $\mathbf{X}_i$ is a vector of selected control variables and baseline measures of the outcome variable, when available, with Ω being the respective vector of coefficients. The ITT estimate is given by β. For simplicity and symmetry with the subsequent analysis, we perform comparisons of each treatment condition ($Z_1 = \text{main}, Z_2 = \text{endorsement}$) relative to the control group (Z_0) and, eventually, between the two treatment conditions. We report results from ITT specifications estimated with and without the prespecified control variables.[4]

Our PAP also called for examining main effects on compliers through a standard instrumental variable setup, but as noncompliance is relatively trivial in our study, it does not substantively affect results.[5] We report effects on compliers in appendix E.

3. The government-run Portal do Empreendedor (Entrepreneur's portal) allowed anyone with the business registration number to search for tax payment records.

4. The control variables specified in the PAP were income, gender, race, size, and sector of business, all measured in the baseline survey.

5. Noncompliance—having been assigned to the treatment and not receiving the treatment—translated into attrition. That is, individuals who were not found or declined to receive the consulting session were also not found or declined the end line survey.

Table 1. Descriptive Statistics of Variables in Main Analysis

	Mean	SD	Missing	Type	Source
Outcomes:					
Intent to formalize	.47	.50	136	Binary	Admin and end line
Formalize	.14	.35	161	Binary	Admin
Formalize and comply	.09	.29	161	Binary	Admin
Knowledge (general)*	.43	.50	367	Binary	End line
Knowledge (features)*	.38	.48	367	Binary	End line
Moderators:					
Lula-PT support	.01	1.00	24	Index	Baseline
Lula (eval)	.57	.50	68	Binary	Baseline
Lula (vote)	.44	.50	68	Binary	Baseline
PT support	.79	.41	30	Binary	Baseline
Interpersonal trust†	.02	1.01	17	Index	Baseline
Trust federal government†	.33	.47	21	Binary	Baseline

Note. All outcome variables as well as the pretreatment political moderation variables are shown. There are more missing observations for variables that are based on the end line survey than on administrative records because of a combination of attrition and item nonresponse. Both sets of unregistered variables are discussed and examined in the Knowledge Acquisition and Uptake section. $N = 1{,}029$.

* Knowledge outcome variables were not preregistered.

† Trust-related variables were not preregistered as moderators for this analysis.

Assessment of the remaining hypotheses requires examination of heterogeneous effects. In particular, we are interested in whether treatment effects are contingent on pretreatment measures of attitudes toward Lula and the PT. We examined these hypotheses by interacting the treatment indicators in equation (1) with the political attitudes moderators (Pol_i), such that

$$Y_i = \beta_1 \text{Pol}_i + \beta_2 Z + \beta_3 Z \times \text{Pol}_i + \Omega \mathbf{X}_i + \phi_i + \varepsilon_i. \quad (2)$$

Equation (2) is also estimated separately for the main treatment arm (Z_1) and the endorsement treatment arm (Z_2), both in comparison to the control group (Z_0). To avoid imposing linearity assumptions, we dichotomized the moderators that were not originally dichotomous at their median values. Hence, β_3 is interpreted as the difference in effects between two subsets of our sample defined by their attitudes toward Lula and the PT.[6] Our hypothesis that those with positive assessments of Lula and the PT will respond more to the treatment is tested by examining β_3. We expect $\beta_3^{Z_1} > 0$ and $\beta_3^{Z_2} > \beta_3^{Z_1}$.

Overall attrition was 26.7% for the end line survey and 14.1% for administrative outcomes. More importantly, pretreatment covariates do not predict end line attrition ($R^2 = 0.010$, $F(11, 851) = 0.81$, and $p = .635$) or administrative attrition ($R^2 = 0.011$, $F(11, 851) = 0.84$, and $p = .602$), and we found no evidence of differential attrition across treatment conditions for the end line survey. Attrition on administrative outcomes was smaller in both treatment groups relative to the control but weakly correlated with pretreatment covariates (see app. B).

RESULTS

We present our main results in table 2, and for each outcome variable we report ITT estimates for specifications with and without the preregistered control variables. We subsequently present the heterogeneous effects for the political mediation. We present this last set of results graphically to facilitate the contrast across the relevant subgroups.

Main effects

Table 2 allows us to examine hypothesis 1. We report estimates of intent-to-treat effects for each treatment arm, estimated with and without controls.

The inclusion of controls hardly affects the point estimates, which is expected given that the study was randomized, and attrition, compliance, and ex post ineligibility were similar across treatment conditions. Results are very similar in both treatment arms. In the main treatment arm, estimates

6. This is very similar to Hainmueller, Mummolo, and Xu's (2019) recommendation to estimate binned regressions in interaction terms. Moreover, as treatment was randomized, there were similar shares of trusting/nontrusting and pro/anti-Lula individuals in each treatment condition, thus guaranteeing common support. See app. F.

Table 2. Main Intent-to-Treat Effects

	Main Arm				Endorsement Arm				
	Estimate	SE	p	p^*	Estimate	SE	p	p^*	N
No controls:									
Intent to formalize	.044	.038	.251	.251	.072	.044	.100	.100	893
Formalize	.050	.027	.063	.094	.053	.031	.086	.100	868
Formalize and comply	.046	.022	.039	.094	.043	.025	.089	.100	868
Knowledge (general)	.142	.043	.001	.001	.131	.050	.009	.012	662
Knowledge (features)	.138	.043	.001	.001	.123	.049	.012	.012	662
With controls:									
Intent to formalize	.052	.038	.170	.170	.092	.044	.035	.090	890
Formalize	.056	.027	.036	.055	.056	.031	.073	.090	865
Formalize and comply	.047	.022	.037	.055	.043	.026	.090	.090	865
Knowledge (general)	.144	.044	.001	.002	.128	.050	.010	.019	662
Knowledge (features)	.127	.043	.003	.003	.115	.049	.019	.019	662

* *P*-values computed using the Benjamini and Hochberg (1995) correction for false discovery rates when testing for multiple related outcomes. These corrections were computed for each of the two "families" of outcomes (i.e., formalization-related and knowledge-related outcomes).

for intent to formalize are not statistically significant, but the point estimates indicate an increase between 4.4 and 5.2 percentage points. We observe statistically significant effects on actual formalization (5.0–5.4 percentage points, $p < .06$) and a slightly smaller effect on the more stringent formalize and comply outcome (4.6–4.7 percentage points, $p < .04$). In the endorsement treatment arm, the effects on intent to formalize are larger (7.2–9.2 percentage points), and for the formalization-related outcomes they are all but identical to those observed in the main arm.

In sum, both treatments produced increases in formalization outcomes. While we see some difference in the "softer" measure of intent to formalize (which includes self-reported intent), the difference between the two arms is always small and virtually zero in the two "harder" outcomes and never statistically significant.

Heterogeneous effects

Figure 1 reports our intriguing results for the moderating effect of political preferences. Each panel reports results for the two treatment arms, using one of the four different operationalizations of the political moderator. For simplicity, we present estimates from a single regression specification employing the full set of controls. Effects of each of the two treatments on detractors of Lula are represented with downward-pointing triangles, while effects on supporters are represented by upward-pointing triangles. The first two results for each outcome (*white triangles*) are from the main arm, while the black triangles correspond to the endorsement arm.

In the main arm, we see significant differences between supporters and detractors for intent to formalize in all definitions of the political moderator. Recall that this outcome includes stated intent, so it is a softer outcome, as simply declaring intent is relatively low cost. The other outcomes require costlier behaviors, and for them, we do not see statistically significant differences between supporters and detractors. For actual formalization, however, we do find that treatment effects on supporters were statistically distinguishable from zero for all versions of the political moderators, while effects were never statistically significant for detractors. For formalization and compliance—the most demanding outcome—we find significant effects only among PT supporters and no statistically significant differences between the groups. Overall, we find weak support for hypothesis 2. The evidence is clearer for the least demanding outcome (intent) and mixed for formalization (with statistically significant effects on supporters), but the hypothesis is not supported for the most demanding outcome that is tax compliance.

We expected more diverging patterns between supporters and detractors in the endorsement arm; however, we find no support for hypothesis 3. Increasing the salience of the political connection of the MEI program to Lula did not strengthen the heterogeneity between his supporters and detractors. We do find some distinctions between the two subgroups but only for intent to formalize and, even then, only for two variants of the political moderator (i.e., index and vote intention). For the

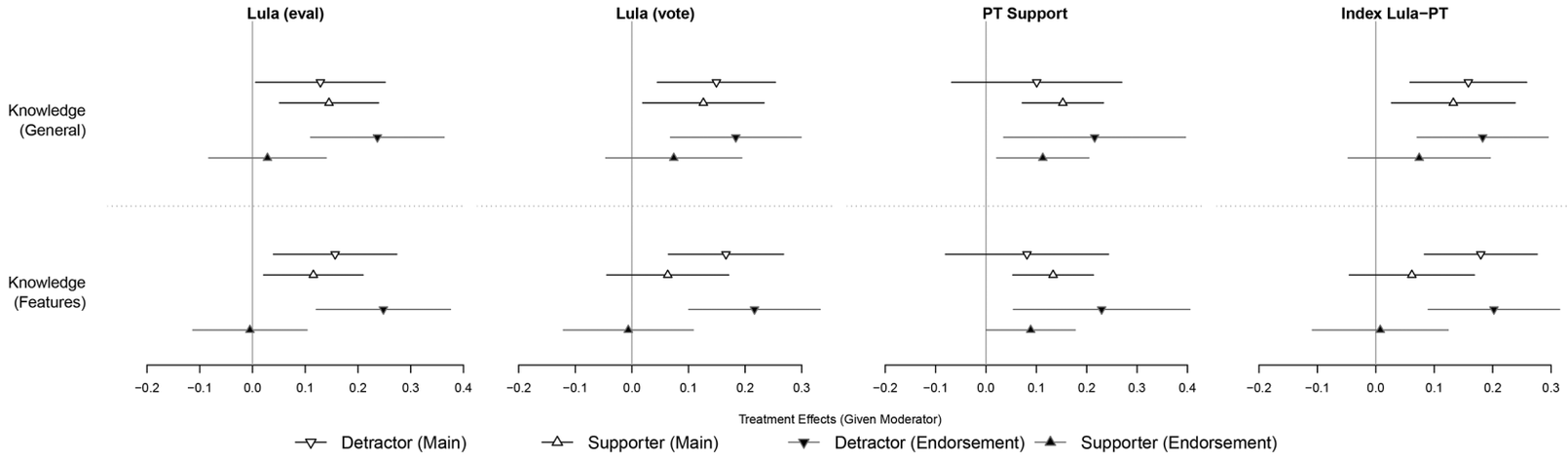

Figure 1. Heterogeneous treatment effects by political attitudes. Intention-to-treat effects on formalization related outcomes for supporters and detractors of Lula and the PT. Estimation follows equation (2), and the political moderators are described in the text and detailed in appendix F.

two other outcomes, if anything, heterogeneity tends to be smaller in the endorsement arm than in the main arm.

One obvious possibility for this unexpected result is that our manipulation in the endorsement treatment arm might have been too weak to produce any effects. The natural way to examine this possibility would be to have had a treatment condition in which respondents were told that the program was introduced under Lula, but did not receive any policy-relevant information. This, however, would not only be ethically questionable but also infeasible, as it would drive away nonpartisan local partners who are essential to a field experiment of this type. In the next section, we examine additional data collected in our surveys and find interesting heterogeneous effects for outcomes related to knowledge acquisition, which suggest a more substantive interpretation of this null effect.

KNOWLEDGE ACQUISITION AND UPTAKE

Exploratory analysis of additional data collected in our study suggests that the political endorsement was strong enough to be consequential. Consider, in particular, the effects of our interventions on the two knowledge outcomes listed in table 1. These outcomes were not preregistered in our PAP, but they add substantial texture to our main results.

The measures of knowledge about the MEI come from two questions in the end line survey. One, our "general knowledge" indicator, was an open-ended question that asked individuals how they would describe the program. Our enumerators coded the answers as correct if they mentioned at least one of the more important features of the program, which 44% of the sample did. The second indicator, which we refer to as "feature knowledge," was coded from a list of six possible statements about the MEI program that individuals had to evaluate as correct or false. We created a normalized additive index of knowledge and, to facilitate reporting, dichotomized the variable such that 39% of respondents were considered "knowledgeable." The two measures of knowledge overlap considerably; 88.7% were equally coded in the two measures.

Our interventions generated substantial increases in knowledge. In the control group, between 32% and 37% of respondents qualified as knowledgeable. ITT estimates were respectively 13.9 and 12.5 percentage points in the main arm for the two outcomes, and 12.4 and 11.4 percentage points in the endorsement arm ($p < .01$ in all cases). These results are compatible with previous studies that suggest the provision of information can affect beneficiaries' knowledge of benefits without necessarily affecting their behavior (Lenz and Valdivia 2021). Average effects, it should also be stressed, were fairly similar across the two treatment arms, with very slightly smaller effects on the endorsement arm.

The interesting story, here, is that for these knowledge outcomes we see clear moderation by political attitudes but only in the endorsement treatment arm, as reported in the first panel of figure 2 for the Lula-PT support index. These results are similar across both operationalizations of knowledge and, as we report in appendix F, across all variants of the political moderator, and they are conspicuously absent from the main treatment arm.

This suggests that our endorsement manipulation did come through to the subjects, even if it did not produce the effects that we anticipated on formalization. That said, one point that might go unnoticed in figure 2 is that the heterogeneous effects of the endorsement manipulation were

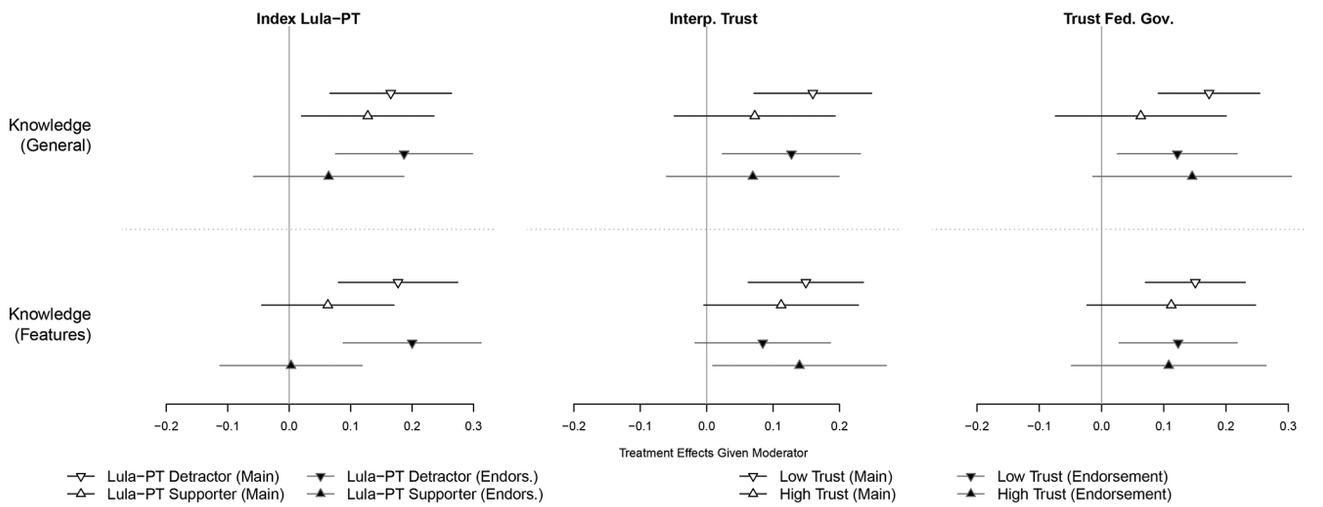

Figure 2. Heterogeneous treatment effects on knowledge. Intention-to-treat effects on formalization related outcomes for two subsets of respondents defined by political and trust moderators. In the first panel, the moderator separates supporters and detractors of Lula-PT, while in the other panels the distinction is between high- and low-trust individuals. Estimation follows equation (2).

such that detractors learned considerably more from the information sessions than supporters of Lula and the PT. For detractors of Lula and the PT, our manipulations increased the share of knowledgeable subjects by between 18.7 and 20 percentage points ($p < .01$), depending on the knowledge indicator, while for supporters these figures were 6.4 percentage points ($p = .39$) and 0.3 percentage points ($p = .96$). These moderation results for knowledge are robust to alternative specifications of the interaction model and, therefore, not influenced by omitted interaction bias (Blackwell and Olson 2022; app. F).

The possibility that this moderation is a fluke is also undermined by the fact that we do not see similar patterns for two trust-related moderators that are conceptually similar to the political moderators. The last two panels in figure 2 show moderation by an interpersonal trust index—created by combining answers to four interpersonal trust items—that was preregistered as a moderator for the main arm and by an unplanned measure of trust in the federal government. These panels show that in the main treatment arm our intervention had statistically significant effects on knowledge acquisition for lower-trust individuals and no effects for high-trust individuals, regardless of the operationalization of the trust moderator or the knowledge outcome. In contrast, and what we consider more revealing, in the endorsement arm the differences between high- and low-trust individuals were always smaller. Here, differently from the case of the political moderators, stressing the political connection between Lula and the MEI program reduced differences in knowledge acquisition between subgroups of individuals.

Another possibility is that our political moderator is simply a stand-in for socioeconomic differences between supporters and detractors. Detractors of Lula are better educated (correlation between the Lula-PT index and education at baseline was $r = -0.24$, $p < .01$) and could, therefore, have a greater capacity to process information. This association, however, is the same in all treatment conditions and, as such, cannot explain why the patterns for knowledge acquisition varied across the two arms. Furthermore, examination of other heterogeneous effects in the main arm as well as the previous literature suggest the opposite, namely that less resourceful individuals respond more to informational treatments (Karlan and Valdivia 2011), even if they are not likely to seek out help. Finally, association between political preferences and pretreatment interest in formalizing was weak; the average score on the Lula-PT support index was 0.084 lower among those who declared an interest in formalizing relative to those who did not ($p = .184$).

One could also conjecture that supporters of Lula and the PT were more likely to have been early adopters of the MEI. Such differential uptake could have generated substantial differences in the sample of Lula-PT supporting and detracting entrepreneurs in our sample, with remaining Lula-PT supporters scoring lower on other dimensions that could predict take-up (and vice versa for detractors). Nonetheless, data we collected on ineligible respondents (excluded from the main analysis but examined in app. G) tell us that those who were already formal (and thus ineligible for our study) scored slightly lower (-0.18, $p = .098$) on the Lula-PT standardized support index. Self-selection into MEI, if it happened, was fairly weak and in the opposite direction that one would expect.

The most plausible explanation is that the political endorsement functioned as a substitute for information retention among supporters. In general, those who were more knowledgeable at end line were also more likely to have formalized. More specifically, those who formalized had 0.25 greater probability of being classified as knowledgeable about the MEI program. Stressing the political connection of the MEI program with the PT and Lula meant increased knowledge for the detractors but no such increase for supporters. Hence, supporters, who were more likely to respond to the main treatment arm, did not acquire more information, and this lack of information might have limited further formalization. The opposite happened to detractors. Their skepticism toward Lula and the PT prompted them to acquire more information that might have then led to greater uptake than would otherwise have been observed.[7] For them, policy-specific information offsets endorsements, as found in Bullock (2011).

The intriguing question is why the endorsement arm affected knowledge acquisition so strongly in this unexpected direction. Our conjecture is that this happened because supporters "relaxed" knowing that they did not need further information to make a decision and then forwent the opportunity to learn more about the program. Thus, the display of Lula might have functioned much as a "candidate heuristic" in which individuals refrain from further information processing (Lau and Redlawsk 2001). In contrast, detractors decided to pay more attention to the information because the Lula endorsement made them weary, and consequently they retained more of the information that facilitated the decision to actually formalize. The two groups formalized at very similar rates in the endorsement arm, but the former formalized without learning while the latter formalized because

7. In app. H we show that information is a strong mediator of the effect of our manipulations on formalization outcomes and that information is a stronger mediator of formalization for detractors than for supporters of Lula and the PT.

they learned about the program. In the main treatment arm, in contrast, learning and formalization rates were similar across the two groups. The conclusion, here, is that information and political endorsements acted as substitutes.

CONCLUSION

We examined whether political attitudes affected uptake of the MEI program, a business formalization initiative introduced during Lula's government that offers very generous benefits at a relatively low cost to a very broad range of eligible individuals. We implemented relatively heavy-handed randomized intervention that provided information and direct assistance to MEI-eligible individuals. We examined first whether this treatment increased uptake, then whether it affected supporters and detractors of Lula and the PT differently, and, finally, whether these differences increased when we emphasized Lula's connection to the program.

Our basic intervention increased uptake, which is relevant given the preceding literature's mixed results. In the main treatment arm we also found some evidence that these effects were stronger for Lula supporters. This was relatively clear with respect to intent to formalize but less so with respect to actual formalization. Surprisingly, however, we found slightly smaller differences in formalization related outcomes between supporters and detractors of Lula and the PT when we stressed Lula's connection to the program.

While this amounts to a mostly null result for the hypotheses of political moderation on uptake, our data analysis support two important conclusions. First, this result is a politically relevant null that cannot simply be pegged on a weak manipulation. Second, the interactive effects of our observed and manipulated political moderators on knowledge acquisition, revealed by our exploratory analysis, are potentially interesting and merit future consideration. We revisit each in turn.

Our null result for political effects on uptake is believable because our endorsement manipulation produced meaningful results on knowledge conditional on political moderators that cannot be explained away by pretreatment differences and that are not replicated using other observed trust moderators. This null result, moreover, is particularly relevant in the context of increasing political polarization. At its inception, MEI was less politicized than ACA; it was not subject to partisan controversy, and it was passed with broad legislative support. Our results suggest, therefore, that there might be limits to the extent to which new polarization affects older policies.

Moreover, the null hides the fact that we did find differences for knowledge acquisition between supporters and detractors, which suggests that the political endorsement affected how our treatment was processed by supporters and detractors differently. Supporters of Lula and the PT, when Lula's endorsement was made salient, did not learn much about the program but formalized at a high rate given their lower knowledge levels. Detractors, in contrast, learned considerably more in the sessions when the Lula connection was stressed. Knowledge and political endorsements seem to have functioned as substitutes.

While this part of the analysis is exploratory, it does point to potentially interesting paths for the study of uptake in polarized settings. Emphasizing political aspects of social programs might, for instance, nudge supporters to shortcut the decision and formalize without acquiring proper information. This, in turn, could generate a type of lower-quality uptake that might affect long-term tax compliance with programs. Yet, the fact that politicization affects information acquisition and retention by detractors is a potentially interesting finding. It would suggest, for instance, that if a program is already politicized, detractors might actually base their decisions on information if it reaches them in a convenient way and through a nonpartisan channel. In this sense, and in line with previous findings (Bullock 2011; Lerman et al. 2017), making this information available might help overcome political barriers to uptake, and it might be particularly effective if targeted at those more likely to oppose the program on political grounds. This is a refreshing perspective but one that requires additional research to be fully understood.

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